IN THE CLAIMS AMEND

Claims 1 – 158 (Cancelled)

159. (Previously Added) A composition for vaccinating a subject mammal against an infection caused by a virus, the composition comprising a modified viral polypeptide, wherein the modified viral polypeptide corresponds to a naturally-occurring viral polypeptide, and wherein the naturally-occurring viral polypeptide possesses a target epitope that is immunogenic in a mammal other than the subject mammal, but not immunogenic in the subject mammal when encountered by natural infection,
and wherein the modified viral polypeptide, when introduced into the subject mammal, induces the production of antibodies that bind specifically to the target epitope of the naturally-occurring viral polypeptide.

160. (Previously Added) The composition of claim 159 wherein the modified viral polypeptide differs from the naturally-occurring viral polypeptide by a modification selected from the group consisting of: amino acid substitution, and amino acid addition, and amino acid deletion.

161. (Previously Added) The composition of claim 159 wherein the naturally-occurring viral polypeptide shares at least 80% primary amino acid sequence identity with the modified viral polypeptide over the length of the modified viral polypeptide, not including any terminal additions.

162. (Previously Added) The composition of claim 159 wherein the naturally-occurring viral polypeptide has a more hydrophobic end and a more hydrophilic end, and wherein the naturally-occurring viral polypeptide is modified by at least one modification selected from the group consisting of: a modification that increases the hydrophobicity of the more hydrophobic end, and a modification that increases the hydrophilicity of the more hydrophilic end of the polypeptide.

163. (Previously Added) The composition of claim 162 wherein the modified viral polypeptide forms an amphipathic helix under physiological conditions.

164. (Previously Added) The composition of claim 162 wherein the more hydrophobic end is at the amino terminal end of the polypeptide and the more hydrophilic end is at the carboxyl terminal end of the polypeptide.

165. (Previously Added) The composition of claim 159 wherein the modified viral polypeptide is less susceptible than the naturally-occurring viral polypeptide to cleavage by at least one intracellular protease.

166. (Previously Added) The composition of claim 159 wherein the naturally-occurring viral polypeptide is modified by at least one modification selected from the group consisting of: amino-terminal acetylation, carboxy-terminal amidation, amino-terminal cysteine addition, and carboxy-terminal cysteine addition.

167. (Previously Added) The composition of claim 160 wherein the naturally-occurring viral polypeptide is modified by substituting naturally-occurring amino acids with the D isomer of such amino acids.

168. (Previously Added) The composition of claim 159 wherein the modified viral polypeptide is coupled to at least one carrier molecule.

169. (Currently Amended) The composition of claim 168 wherein the carrier molecule is a ~~muralyl~~ muramyl dipeptide.

170. (Previously Added) The composition of claim 159 wherein the virus is a retrovirus.

171. (Previously Added) The composition of claim 170 wherein retrovirus is an HIV virus.

172. (Previously Added) The composition of claim 159 wherein the subject mammal is a human.

173. (Previously Added) The composition of claim 172 the virus is a retrovirus.

174. (Previously Added) The composition of claim 173 wherein the retrovirus is an HIV virus.

175. (Previously Added) The composition of claim 174 wherein the naturally-occurring viral polypeptide is selected from the group consisting of: a Gag polypeptide, a Pol polypeptide, an Env polypeptide, and fragments thereof.

176. (Previously Added) The composition of claim 175 wherein the naturally-occurring viral polypeptide is selected from the group consisting of: Env polypeptide gp120, Env polypeptide gp41, Gag polypeptide p17, Gag polypeptide p24, Gag polypeptide p7, protease polypeptide p10, reverse transcriptase heterodimer p66/55, and fragments thereof.

177. (Currently Amended) The composition of claim 174 wherein the naturally-occurring viral polypeptide of HIV is selected from the group consisting of: (a) a region extending from amino acid residue 4 through amino acid residue 27 of gp120; (b) a region extending from amino acid residue 54 through amino acid residue 76 of gp120; (c) a region extending from amino acid residue 502 through amino acid residue 541 of gp41; (d) a region extending from amino acid residue 254 through amino acid residue 295 of reverse transcriptase heterodimer p66/55; (e) a region extending from amino acid residue 69 through 94 of protease p10; (f) a region extending from amino acid residue 166 through amino acid residue 181 of gag gene protein p24; (g) a region extending from amino acid residue 390 through amino acid residue 410 of gag gene protein p7, (h) a region extending from amino acid residue 438 through 443 of gag gene protein p7; (i) ~~a region extending from amino acid residue 69 through 94 of protease p10; (j)~~ a region extending from amino acid residue 2 through amino acid residue 23 of gag gene protein p17; and ~~(k)~~(j) a region extending from amino acid residue 89 through amino acid residue 122 of gag gene protein p17.

178. (Previously Added) The composition of claim 174 wherein the modified viral polypeptide is a carbohydrate-depleted polypeptide.

179. (Currently Amended) The composition of claim 178 wherein the modified viral polypeptide is selected from the group consisting of: (a) a carbohydrate-depleted polypeptide that corresponds to gp120, (b) a carbohydrate-depleted polypeptide that corresponds to gp41, (c) ~~a carbohydrate-depleted polypeptide that corresponds to, (d)~~ a carbohydrate-depleted polypeptide that corresponds to p24 CA, ~~(e)~~ (d) a carbohydrate-depleted polypeptide that corresponds to p7 NC, ~~(f)~~ (e) a carbohydrate-depleted polypeptide that corresponds to p10 PR, ~~(g)~~ (f), and a carbohydrate-depleted polypeptide that corresponds to p66/55 RT.

180. (Previously Added) The composition of claim 159 comprising a modified viral polypeptide having a length of between about 5 and 50 amino acids.

181. (Previously Added) The composition of claim 159 comprising a modified viral polypeptide having a length of about 5 and 35 amino acids.

182. (Previously Added) The composition of claim 159 wherein the modified viral polypeptide is a synthetic peptide.

183. (Previously Added) The composition of claim 159 comprising at least two different modified viral polypeptides.

184. (Previously Added) The composition of claim 174 that, when administered to a human subject, stimulates a neutralizing immune response against the target viral epitope.

185. (Previously Added) The composition of claim 159 wherein the target epitope has an amino acid sequence that immunologically mimics a portion of a human protein.

186. (Previously Added) The composition of claim 185 wherein the human protein is selected from the group consisting of: human alpha fetal protein, aspartyl protease, deoxuridine-triphosphate nucleotidohydrolase, eosinophil cationic protein, eosinophil-derived neurotoxin and ribonuclease 4 precoursor.

187. (Previously Added) The composition of claim 159 further comprising an adjuvant.

188. (Previously Added) The composition of claim 159 further comprising a pharmaceutically acceptable carrier.

189. (Previously Added) A composition for vaccinating a subject mammal against an infection caused by a virus, the composition comprising a polynucleotide, which polynucleotide encodes the modified viral peptide of claim 159.

190. (Previously Added) The composition of claim 189 wherein the polynucleotide is a recombinant polynucleotide.

191. (Previously Added) The composition of claim 190 wherein the polynucleotide is operatively linked to an expression vector.

192. (Previously Added) The composition of claim 190 wherein the expression vector comprises a control element.

193. (Previously Added) The composition of claim 190 wherein the polynucleotide is selected from the group consisting of a deoxyribopolynucleotide, and a ribopolynucleotide.

194. (Previously Added) The composition of claim 190 wherein the polynucleotide encodes a modified viral polypeptide that corresponds to a naturally-occurring viral polypeptide selected from the group consisting of: a Gag polypeptide, a Pol polypeptide, an Env polypeptide, and fragments thereof.

195. (Previously Added) The composition of claim 190 wherein the naturally-occurring viral polypeptide shares at least 80% primary amino acid sequence identity with the modified viral polypeptide over the length of the modified viral polypeptide, not including any terminal additions.

196. (Previously Added) The composition of claim 190 wherein the naturally-occurring viral polypeptide shares at least 80% primary amino acid sequence identity with the modified

viral polypeptide over the length of the modified viral polypeptide, not including any terminal additions.

197. (Previously Added) A method for the prophylactic vaccination of a subject mammal against an infection caused by a virus, the method comprising administering to the subject mammal a composition comprising a modified viral polypeptide,
wherein the modified viral polypeptide corresponds to a naturally-occurring viral polypeptide, and wherein the naturally-occurring viral polypeptide possesses a target epitope that is immunogenic in a mammal other than the subject mammal, but not immunogenic in the subject mammal when encountered by natural infection,
and wherein the modified viral polypeptide, when introduced into the subject mammal, induces the production of antibodies that bind specifically to the target epitope of the naturally-occurring viral polypeptide.

198. (Previously Added) The method of claim 197 wherein the subject mammal is a human and wherein the virus is a retrovirus.

199. (Previously Added) The method of claim 198 wherein the retrovirus is an HIV virus.

200. (Previously Added) The method of claim 197 wherein the modified viral polypeptide differs from the naturally-occurring viral polypeptide by a modification selected from the group consisting of: amino acid substitution, and amino acid addition, and amino acid deletion.

201. (Previously Added) The method of claim 197 wherein the naturally-occurring viral polypeptide shares at least 80% primary amino acid sequence identity with the modified viral polypeptide over the length of the modified viral polypeptide, not including any terminal additions.

202. (Previously Added) The method of claim 197 wherein the naturally-occurring viral polypeptide has a more hydrophobic end and a more hydrophilic end, and wherein the naturally-occurring viral polypeptide is modified by at least one modification selected from the group consisting of: a modification that increases the hydrophobicity of the more hydrophobic end, and a modification that increases the hydrophilicity of the more hydrophilic end of the polypeptide.

203. (Previously Added) The method of claim 197 wherein the more hydrophobic end is at the amino terminal end of the polypeptide and the more hydrophilic end is at the carboxyl terminal end of the polypeptide.

204. (Previously Added) The method of claim 197 wherein the naturally-occurring viral polypeptide is modified by at least one modification selected from the group consisting of: amino-terminal acetylation, carboxy-terminal amidation, and cysteine addition to either terminal of the polypeptide.

205. (Previously Added) The method of claim 197 wherein the encoded modified viral polypeptide corresponds to a naturally-occurring viral polypeptide selected from the group consisting of: a Gag polypeptide, a Pol polypeptide, an Env polypeptide, and fragments thereof.

206. (Previously Added) The method of claim 197 further comprising administering an adjuvant.

207. (Previously Added) The method of claim 197 further comprising administering a pharmaceutically acceptable carrier.

208. (Previously Added) The method of claim 197 wherein said administering is repeated.

209. (Previously Added) A method for the prophylactic vaccination of a subject mammal against an infection caused by a virus, the method comprising administering to the subject mammal a composition comprising a polynucleotide, which polynucleotide encodes a modified viral peptide,

wherein the modified viral polypeptide corresponds to a naturally-occurring viral polypeptide, and wherein the naturally-occurring viral polypeptide possesses a target epitope that is immunogenic in a mammal other than the subject mammal, but not immunogenic in the subject mammal when encountered by natural infection,

and wherein the modified viral polypeptide, when introduced into the subject mammal, induces the production of antibodies that bind specifically to the target epitope of the naturally-occurring viral polypeptide.

210. (Previously Added) The method of claim 209 wherein the subject mammal is a human and wherein the virus is a retrovirus.

211. (Previously Added) The method of claim 209 wherein the retrovirus is an HIV virus.

212. (Previously Added) The method of claim 209 wherein the modified viral polypeptide differs from the naturally-occurring viral polypeptide by a modification selected from the group consisting of: amino acid substitution, and amino acid addition, and amino acid deletion.

213. (Previously Added) The method of claim 209 wherein the naturally-occurring viral polypeptide shares at least 80% primary amino acid sequence identity with the modified viral polypeptide over the length of the modified viral polypeptide, not including any terminal additions.

214. (Previously Added) The method of claim 209 wherein the naturally-occurring viral polypeptide has a more hydrophobic end and a more hydrophilic end, and wherein the naturally-occurring viral polypeptide is modified by at least one modification selected from the group consisting of: a modification that increases the hydrophobicity of the more hydrophobic end, and a modification that increases the hydrophilicity of the more hydrophilic end of the polypeptide.

215. (Previously Added) The method of claim 214 wherein the more hydrophobic end is at the amino terminal end of the polypeptide and the more hydrophilic end is at the carboxyl terminal end of the polypeptide.

216. (Previously Added) The method of claim 209 wherein the naturally-occurring viral polypeptide is modified by at least one modification selected from the group consisting of: amino-terminal acetylation, carboxy-terminal amidation, and cysteine addition to either terminal of the polypeptide.

217. (Previously Added) The method of claim 209 wherein the encoded modified viral polypeptide corresponds to a naturally-occurring viral polypeptide selected from the group consisting of: a Gag polypeptide, a Pol polypeptide, an Env polypeptide, and fragments thereof.

218. (Previously Added) The method of claim 209 further comprising administering an adjuvant.

219. (Previously Added) The method of claim 209 further comprising administering a pharmaceutically acceptable carrier.

~~210~~220. (Currently Amended) The method of claim 209 wherein said administering is repeated.